**IN THE CLAIMS:**

**Please amend claim 1 to read as follows:**

1. **(Amended)** A self-sustained pulsating laser diode having a double-heterostructure comprising:

a first cladding layer of a first conductivity type;

a multi-quantum well active layer; and

a second cladding layer of a second conductivity type each being arranged on a semiconductor substrate of the first conductivity type, the number of said quantum wells being at least 5 and no greater than 10; and a layer thickness of a flat part of said second cladding layer having a current blocking structure being at least 300nm and no greater than 500nm; and a carrier density in said flat part of said second cladding layer having a current blocking structure being at least $1x10^{17}cm^{-3}$ and no greater than $5x10^{17}cm^{-3}$.

**Please amend claim 2 to read as follows:**

2. **(Amended)** A self-sustained pulsating laser diode having a double-heterostructure comprising:

a first cladding layer of a first conductivity type;

a multi-quantum well active layer; and

a second cladding layer of a second conductivity type each being arranged on a semiconductor substrate of the first conductivity type,

an effective refractive index difference parallel to the layers ($\Delta n$) being at least $7x10^{-4}$ and no greater than $3x10^{-3}$, and a carrier density in a flat part of said second cladding layer having a current blocking structure being at least $1x10^{17}cm^{-3}$ and no greater than $5x10^{17}cm^{-3}$.

**Please amend claim 3 to read as follows:**

**3. (Amended)** A self-sustained pulsating laser diode according to claim 1, wherein said cladding layers are made of a semiconductor that includes AlGaInP, and said active layer is semiconductor that includes at least one of GaInP and AlGaInP.

**Please amend claim 4 to read as follows:**

**4. (Amended)** A self-sustained pulsating laser diode according to claim 2, wherein said cladding layers are made of a semiconductor that includes AlGaInP, and said active layer is a semiconductor that includes at least one of GaInP and AlGaInP.

**Please amend claim 9 to read as follows:**

**9. (Amended)** A self-sustained pulsating laser diode having a double-heterostructure comprising:

a first cladding layer of a first conductivity type;

a multi-quantum well active layer; and

a second cladding layer of a second conductivity type each being arranged on a semiconductor substrate of the first conductivity type, the number of said quantum wells being at least 5; and

a layer thickness of a flat part of said second cladding layer having a current blocking structure being at least 300nm; and an effective refractive index difference parallel to the layers ($\Delta n$) being at least $7x10^{-4}$ and no greater than $3x10^{-3}$.